Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Review of the Commission's Rules Governing the 896-901/935-940 MHz Band	)	WT Docket No. 17-200
	)	

REPLY COMMENTS OF THE ASSOCIATION OF AMERICAN RAILROADS

The Association of American Railroads ("AAR") submits these reply comments in response to the Notice of Proposed Rulemaking ("NPRM") released by the Federal Communications Commission ("Commission" or "FCC") in the above-captioned proceeding.[1] AAR reiterates that the NPRM fails to consider the impact that AAR's nationwide ribbon license will have on any reconfiguration of the 900 MHz band (*i.e.*, 896-901/935-940 MHz), so any solution must resolve the complex issues raised by AAR's unique presence in the band. Additionally, the record reflects agreement regarding other critical issues, namely: (1) commercially available narrowband, wideband, and broadband services are not a substitute for dedicated private networks used for critical infrastructure or mission-critical applications, including railroads' next-generation safety applications; (2) incumbents' relocation costs likely will be higher than the NPRM suggests; and (3) complex systems should be exempt from mandatory relocation.

[1] *Review of the Commission's Rules Governing the 896-901/935-940 MHz Band*, Notice of Proposed Rulemaking, 34 FCC Rcd 1550 (2019) ("*NPRM*").

I. THE COMMISSION MUST CONSIDER THE IMPACT THAT AAR'S UNIQUE NATIONWIDE RIBBON LICENSE WILL HAVE ON RECONFIGURATION.

Unique among 900 MHz band licensees, AAR holds a nationwide "ribbon" license that covers the geography within 70 miles on either side of the nation's freight railway tracks.[2] The Commission created AAR's single nationwide ribbon license in 2001 from over three hundred private land mobile radio ("PLMR") call signs in order to "streamline the Commission's licensing processes and provide AAR with needed flexibility in choosing where to deploy . . . base stations."[3] AAR's member railroads rely on the ribbon license's six noncontiguous, paired frequencies for Train Control/Central Traffic Control operations,[4] which enable approximately 9,500 transceivers to wirelessly control wayside track switches and signals. Three of the ribbon license's paired frequencies are within the Commission's proposed broadband segment (*i.e.*, 897.5-900.5 MHz/936.5-939.5 MHz), and the remaining three paired frequencies are less than one megahertz away from the Commission's proposed broadband segment.[5]

In order to successfully reconfigure the 900 MHz band, the FCC must account for the impact that AAR's unique nationwide ribbon license will have on any reconfiguration of the 900 MHz band.[6] Commenters addressed the general complexity associated with converting the

---

[2] *See, e.g.*, Comments of pdvWireless, Inc., WT Docket No. 17-200, at 28 (May 30, 2019) ("pdvWireless Comments") ("AAR occupies a unique position in the 900 MHz band."). Unless otherwise specified, all cited comments were filed in WT Docket No. 17-200 on June 3, 2019.

[3] *Petition of Association of American Railroads (AAR) for Modification of Licenses for Use in Advanced Train Control Systems and Positive Train Control Systems*, Order, 16 FCC Rcd 3078, ¶ 7 (WTB 2001) ("*2001 Modification Order*").

[4] The six frequency pairs are: (1) 896.8875/935.8875 MHz, (2) 896.9375/935.9375 MHz, (3) 896.9875/935.9875 MHz, (4) 897.8875/936.8875 MHz, (5) 897.9375/936.9375 MHz, and (6) 897.9875/936.9875 MHz. *See NPRM* n. 44; *2001 Modification Order* n. 2. These frequencies have been licensed to AAR since 1988 and were converted into a single ribbon licensee in 2001. *See 2001 Modification Order* ¶ 3.

[5] *NPRM* ¶ 15.

[6] AAR notes that few parties commented on this issue because the Commission failed to seek comment on the issue.

railroads' operations back to site-based licenses.[7] Furthermore, relocating AAR's frequencies county-by-county would administratively and operationally burden AAR, which could be required to: (1) hire additional staff to track its new patchwork network of frequencies across hundreds or thousands of counties; and (2) reconfigure its network to accommodate different base stations operating on different frequencies in different counties, thereby creating potentially unsafe conditions for trackside switch and signal operations.[8]

Several commenters stated that the FCC should, if necessary, release spectrum from its inventory "as green space for the relocation of incumbent systems."[9] This process should include exchanging the FCC's three A Block licenses for pdvWireless's C Block spectrum.[10] The exchange between the Commission and pdvWireless would enable pdvWireless to then assign the A Block spectrum to AAR on a nationwide basis, thereby laying the groundwork for efficiently relocating AAR out of the proposed broadband segment.[11]

---

[7] *See* pdvWireless Comments at 29 ("It would not be possible to provide AAR with comparable facilities across the country on B/ILT frequencies as there are no B/ILT frequencies that are entirely incumbent-free nationwide."); Comments of NextEra Energy at 11-12 ("NextEra Comments") ("[T]he NPRM does not address where it will relocate the three channels within the proposed broadband segment that currently are assigned *throughout the country* to the railroad industry.") (emphasis added); Comments of the Association of American Railroads at 1 ("AAR Comments") (noting that AAR "currently holds a unique nationwide ribbon license on which its member railroads operate thousands of radios").

[8] AAR Comments at 5.

[9] Comments of Ameren at 6. *See also* pdvWireless Comments at 29 ("Because AAR already holds a nationwide license, its replacement frequencies must come from MTA spectrum."); Comments of the Hawaiian Electric Companies at 5 ("The FCC should issue as much spectrum as is necessary and available from its inventory.").

[10] AAR Comments at 11. On June 14, 2019, pdvWireless announced that it would operate under the new brand name "Anterix." Anterix, Press Release, *pdvWireless Rebrands as Anterix, Solidifies its Focus on Private Broadband Solutions*, https://www.anterix.com/press-releases-article/8416/ (June 14, 2019). To minimize confusion, AAR's reply comments will continue to refer to pdvWireless.

[11] AAR Comments at 11. *See also* pdvWireless Comments at 30 ("For these reasons, and as previously described to FCC staff, AAR and PDV have negotiated a Letter of Intent to exchange all six of AAR's non-contiguous frequencies for the nationwide 10-channel A Block."). AAR reiterates that, under this scenario, it would relinquish its nationwide ribbon license, thus freeing

II. THE RECORD REFLECTS CONCERNS REGARDING DELIVERY OF MISSION-CRITICAL SERVICES, INCUMBENTS' RELOCATION COSTS, AND MANDATORY RELOCATION OF COMPLEX SYSTEMS.

While AAR believes that any successful reconfiguration of the 900 MHz band must resolve issues raised by the presence of AAR's nationwide ribbon license, the record also reflected concerns regarding the delivery of mission-critical services, incumbents' relocation costs, and the mandatory relocation of complex systems.

A. Commercially available narrowband, wideband, and broadband services are not a substitute for dedicated private networks used for critical infrastructure or mission-critical applications, including railroads' next-generation safety applications.

In the NPRM, the FCC stated that the 900 MHz band is "primarily used for two-way communication by land transportation, utility, manufacturing, and petrochemical companies."[12] These companies have built and operated their own networks in the 900 MHz band because no commercially available services have suited these companies' needs.[13] Current 900 MHz band licensees, including AAR, have "unique safety, security, reliability, privacy, property protection and other specific needs."[14] Consequently, no existing service providers have been "willing or able to guarantee contractually the [required] service levels . . . with respect to systems throughput, capacity, availability, scheduling of downtime windows or timeline for discontinuance of specific services or capabilities."[15]

---

up spectrum that "would ultimately become available for relocating other incumbents." AAR Comments at 11.

[12] *NPRM* ¶ 1.

[13] *See, e.g.*, Comments of Southern California Edison at 10 ("Historically, commercial operators have demonstrated little understanding of the specialized communications needs of utilities, driving the need for utilities to build and operate their own critical infrastructure communications networks.").

[14] Comments of Jvckenwood USA Corporation at 11-12.

[15] Comments of United Parcel Service, Inc. at 8-9 ("UPS Comments").

The lack of commercial options affects future deployments, as well. As AAR stated, railroad members "are currently unable to deploy important new train safety applications with AAR's current inventory . . . of only narrowband spectrum."[16] These applications include diagnostic tools to test Positive Train Control wayside interface units, applications to continuously monitor the integrity of highway grade crossings, and sensors that can detect train wheel defects and overheated gear boxes in order to prevent derailments.[17] With their current spectrum holdings at 900 MHz, the railroads' ability to innovate is limited and could hamper implementation of these forward-looking safety enhancements. The proposed spectrum swap with pdvWireless, however, *would* provide AAR with the ten contiguous channels AAR needs for its next-generation safety applications.[18] The negotiated swap also would clear the 900 MHz band of AAR's nationwide ribbon license and resolve a major administrative burden to a successful reconfiguration.[19]

B. The NPRM underestimates parties' relocation costs.

The NPRM suggested that relocation costs "may be relatively low given that equipment is interoperable across the entire [900 MHz] band and would therefore only require incumbents to retune their existing radio equipment."[20] The Commission's assumption, however, was inconsistent with the cost estimates submitted by various parties. In fact, several parties provided estimates that could make successful clearing of the broadband segment extremely expensive. AAR calculated that its relocation costs could total $70 million if all six channels were relocated and roughly $35 million if only three channels were relocated.[21] NextEra Energy

[16] AAR Comments at 7.

[17] *Id.* at 7-8.

[18] *See id.* at 9-10 (describing negotiations between AAR and pdvWireless).

[19] *See supra* Section I (discussing the administrative burdens posed by AAR's unique nationwide ribbon license).

[20] *NPRM* ¶ 50.

[21] AAR Comments at 6.

estimated that its subsidiary, Florida Power & Light, would incur relocation costs as high as $98 million.[22] Other incumbent licensees, representing a diverse range of businesses, pegged their relocation costs between $10 million and $20 million.[23]

C. Complex systems should be exempt from any mandatory relocation.

The Commission stated that it "could require mandatory relocation for the remaining incumbent(s) except for those with complex systems, which could be defined as systems with 65 or more integrated 900 MHz sites."[24] AAR specifically highlighted that the NPRM's structure did not make it "seem that [being designated a 'complex system'] would ultimately protect AAR from mandatory relocation if an auction process [wa]s used."[25] AAR agrees with parties that supported exempting complex systems from any mandatory relocation.[26]

---

[22] NextEra Comments at 10.

[23] *See* UPS Comments at 15 (citing "capital investment in its 900 MHz trunked radio systems" at $20 million); Comments of the City of Los Angeles Department of Water and Power at 4 (estimating relocation costs of "at least $13 million solely in capital costs and the value of existing contracts"); Joint Comments of the American Petroleum Institute and the Energy Telecommunications and Electrical Association at 3 ("[I]f existing narrowband radios must be replaced rather than retuned, the replacement cost could exceed $10 Million for [a] large petrochemical plant.").

[24] *NPRM* ¶ 38.

[25] AAR Comments at n.16.

[26] *See* pdvWireless Comments at 17 ("The NPRM proposes exempting from any mandatory relocation trigger what it describes as 'complex systems . . . with 65 or more integrated 900 MHz sites.' PDV supports this proposal."); Comments of the Critical Infrastructure Coalition at 8 ("[C]ertain systems should be completely excluded from any consideration of mandatory relocation."); Comments of the Lower Colorado River Authority at 10 ("If the Commission adopts its proposal to realign the 900 MHz band and decides to include a mandatory relocation mechanism, the Commission should exclude existing 'complex' narrowband systems from any such mandatory relocation.").

III. CONCLUSION

AAR's nationwide ribbon license presents unique challenges for successfully creating a broadband segment in the 900 MHz band. Relocating AAR's frequencies on a county-by-county basis would introduce unnecessary, complex administrative and operational burdens for the Commission and AAR while undercutting the purpose for creating AAR's nationwide license. Accordingly, the FCC should release spectrum from its inventory, as necessary, and permit the proposed spectrum swap with pdvWireless, which would greatly simplify reconfiguration. In addition, the Commission should heed concerns raised by commenters regarding the delivery of mission-critical services, incumbents' relocation costs, and mandatory relocation of complex systems.

Respectfully Submitted,

/s/ Michele C. Farquhar

Michele C. Farquhar
David Martin
Tom Peters
John Castle

HOGAN LOVELLS US LLP
555 Thirteenth Street, NW
Washington, DC 20004
T: (202) 637-5663

Kathryn D. Kirmayer
Senior Vice President – Law & General Counsel

Timothy J. Strafford
Associate General Counsel

THE ASSOCIATION OF AMERICAN RAILROADS
425 Third Street, SW, Suite 1000
Washington, DC 20024

July 3, 2019